11-2300-355-15-4

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

INSTALLATION OF RADIO SETS AN/VRC-46 AND AN/VRC-47 IN CARRIER, PERSONNEL, ARMORED M113, M113A1

Headquarters, Department of the Army, Washington, D.C.

17 March 1967

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CHAPTER 2
INSTALLATION

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2–1. Unpacking

Move the packing boxes close to the location where the installation is to be made, and unpack the parts of the installation unit. Be careful not to lose any of the parts.

2–2. Checking Unpacked Equipment

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1–3).

b. See that the equipment is complete as listed on the packing slip. If a packing slip is not available, the completeness of the installation unit can be determined by comparing the parts received with the items listed on the installation drawings (figs. 2–1 and 2–2). Report all discrepancies in accordance with TM 38–750. Shortage of a minor assembly or part that does not affect proper installation or functioning of the equipment should not prevent the installation unit from being installed.

c. When vehicles with radio sets are to be turned in or transferred, communication equipment will be removed and reinstalled in new replacement vehicles. Additional items which are required to complete installation should be requisitioned as individual items. To determine the federal stock number of authorized items in the installation unit, refer to SB 11–131.

SECTION II. EQUIPMENT INSTALLATION

2–3. Tools Required for Installation

The tools required for installation of Radio AN/VRC–46 and AN/VRC–47 are a part of Tool Kits, Radio and Radar Repairman TK–87/U and TK–88/U. The following additional items are required:

a. One (3/8-inch) electric drill.

b. One set of (1/16-inch to 3/8-inch) drill bits.

2–4. Installation Instructions

a. To accomplish the installation of Radio Set AN/VRC–46, follow the installation instructions (FSN 7610–823–7881).

b. To accomplish the installation of Radio Set AN/VRC–47, follow the instructions shown on figures 2–1 and 2–2.

c. To complete the installation COMB. KIT #30, installation unit (FSN 5820–082–3476) is also required.

d. The following additional information is provided.

(1) To drill the correct size holes for the sheet metal screws that hold the plastic cable clamps, select a drill bit that is slightly smaller in diameter than the screw.

(2) When the installation is completed, check the tightness of all bolts and screws.

APPENDIX

REFERENCES

R 700–58	Report of Damaged or Improper Shipment.
A Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
B 11–131	Vehicular Radio Sets and Authorized Installations.
B 38–100	Preservation, Packaging, and Packing Materials, Supplies, and Equipment Used by the Army.
B SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.
M 11–5820–401–10	Operator's Manual: Radio Sets AN/VRC–12 and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
M 11–5820–401–20	Organizational Maintenance Manual (Including Repair Parts and Special Tool Lists): Radio Sets AN/VRC–12 and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
M 11–5820–401–35	DS, GS, and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists): Radio Sets AN/VRC–12 and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
M 38–50	Army Equipment Record Procedures.

By Order of the Secretary of the Army:

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General, United States Army,
Chief of Staff.

ficial:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

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To be distributed in accordance with DA Form 12–37 requirements for Direct and General Support Maintenance literature for Carriers, Personnel M113 and M113A1.

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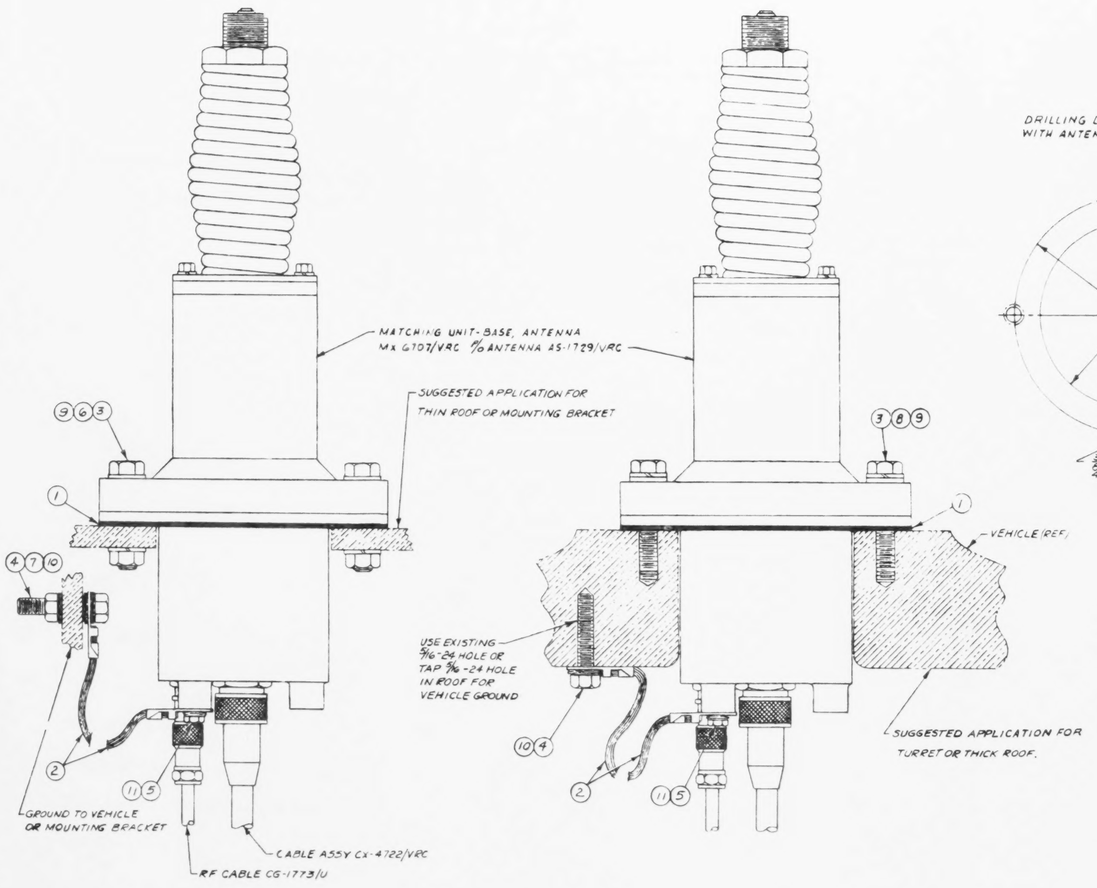
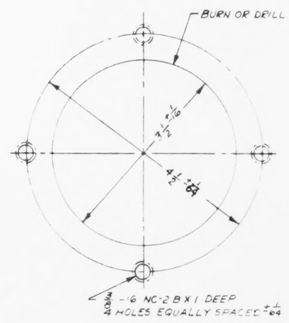
End of Volume.


MATCHING UNIT-BASE, ANTENNA MX G707/VRC
SUGGESTED APPLICATION FOR THIN ROOF OR MOUNTING BRACKET
9 6 3
1
4 7 10
2
11 5
GROUND TO VEHICLE OR MOUNTING BRACKET
CABLE ASSY CX-4722/VRC
RF CABLE CG-1773/U
3 8 9
VEHICLE (REF.)
USE EXISTING 5/16-24 HOLE OR TAP 5/16-24 HOLE IN ROOF FOR VEHICLE GROUND
10 4
SUGGESTED APPLICATION FOR TURRET OR THICK ROOF.

DRILLING DETAIL FOR VEHICLES EQUIPPED WITH ANTENNA OPENING LESS THAN 3½ DIA.



DETAIL A

NOTES:

1. IN THE EVENT THE ANTENNA AS-1291/VRC IS ISSUED WITH THE BASIC UNIT OF AN/VRC-12 (SERIES) RADIO SETS INSTALL AS SHOWN IN APPROPRIATE VIEW.
2. RETURN FAILED BRACKETS AND PARTS PER ARTSS-6.
3. FOR VEHICLES EQUIPPED WITH SMALL ANTENNA OPENING SEE DETAIL A.

Item No.	Name of Items	Qty req'd	Remarks
1	Gasket, rubber	1	SC-B-160382
2	Ground stram (6 in. lg)	1	SC-C-27813GP9
3	Screw, hex hd cap, 3/8-16 x 1¾ lg	4	MS35291-65
4	Screw, hex hd cap, 5/16-24 x 1½ lg	1	MS-35292-88
5	Screw, hex hd cap, #10-32 x ½ lg	1	MS9122-03
6	Hex nut, plain, 3/8-16	4	MS35690-602
7	Hex nut, plain, 5/16-24	1	MS35690-522
8	Washer, split, ⅜ x 13/32 ID	4	MS35338-27
9	Washer, flat, 13/32	4	MS15795-214
10	Lockwasher, 5/16 iet	3	MS45904-72
11	Lockwasher, #10 iet	2	MS45904-60

Figure 2-1. Drilling details for Antenna AS-1729/VRC.

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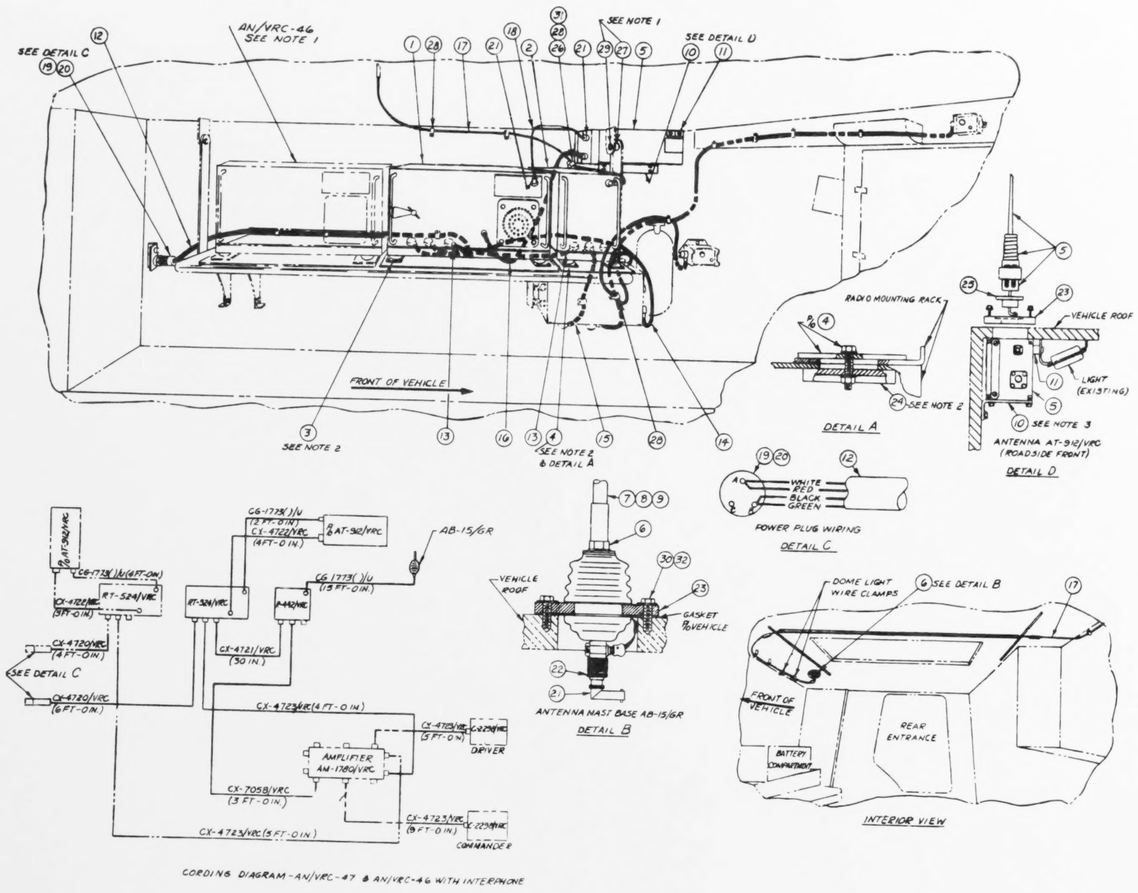

CORDING DIAGRAM - AN/VRC-47 & AN/VRC-46 WITH INTERPHONE

NOTES:

1 — IT IS RECOMMENDED THAT RADIO SET AN/VRC-46 WITH INTERPHONE BE INSTALLED PER INSTALLATION INSTRUCTIONS FSN 7010 825 7001 PRIOR TO INSTALLATION OF RADIO SET AN/VRC-47. INSTALLATION OF RADIO MOUNTING RACK (SC-DL-48603) IS MODIFIED TO INCLUDE ITEMS 27 & 29 ON FORWARD END OF RACK.

2 — BOLT 3 INTO POSITION BEFORE DRILLING MOUNTING HOLES FOR 4. DRILL MOUNTING HOLES FOR 4 USING 4 AS A TEMPLATE. RIGHT REAR HOLE OF 4 WILL FALL INTO LARGE HOLE IN MOUNTING RACK. USE 24 TO SPAN HOLE FOR SECURING FOURTH BOLT OF 4. SEE DETAIL A.

3 — DRILLING DETAILS FOR 10 & 26 PER SC-D-48736.

4 — CABLES ARE ATTACHED TO THE UNDERSIDE OF THE RADIO SET MOUNTING. BY REMOVING UPPER CAP SCREWS USED TO SECURE THE TOP TRAY OF THE MOUNTING TO THE SHOCK MOUNTS. REASSEMBLE AFTER BOLTING LOWER TRAY TO RADIO MOUNTING RACK ASSEMBLY PER SC-DL-48608 AND SECURING CABLE TO TOP TRAY.

5 — CUT STRAP MATERIAL INTO REQUIRED LENGTHS FOR CABLE CLAMPING. LOCATE APPROXIMATELY AS SHOWN.

Item No.	Name of Items	Qty req'd	Remarks
1	Radio Receiver-Transmitter RT-524/VRC	1	
2	Radio Receiver R-442/VRC	1	(Aux)
3	Mounting MT-1029/VRC	1	(See Note 2)
4	Mounting MT-1898/VRC	1	(See Note 2)
5	Antenna AT-912/VRC	1	
6	Mast Base AB-15/GR	1	
7	Mast Section MS-116A	1	
8	Mast Section MS-117A	1	
9	Mast Section MS-118A	1	
10	Angle bracket assembly (See Note 3)	1	SC-C-48618
11	Bracket assembly	1	SC-C-48607
12	Cable Assembly, Special Purpose, Electrical CX-4720/VRC (6 ft—0 in.)	1	
13	Cable Assembly, Special Purpose, Electrical CX-4721/VRC (30 in.)	1	
14	Cable Assembly, Special Purpose, Electrical CX-4723/VRC (4 ft—0 in.)	1	
15	Cable Assembly, Special Purpose, Electrical CX-7058/VRC (3 ft—0 in.)	1	
16	Cable Assembly, Special Purpose, Electrical CX-4722/VRC (4 ft—0 in.)	1	
17	R.F. Cable Assembly CG-1773/U (15 ft—0 in.)	1	
18	R.F. Cable Assembly CG-1773/U (2 ft—0 in.)	1	
19	Accessory assembly	1	
20	Plug assembly	1	
21	Adapter UG-306/U	2	
22	Adapter UG-273/U	1	
23	Adapter assembly	1	SC-C-49639
24	Reinforcement (See Note 2)	1	SC-B-52099
25	Seal	1	SC-B-48616
26	Spacer (See Note 3)	1	SC-B-48692
27	Spacer (See Note 1)	2	SC-B-52100
28	Cable support kit, PPL#1469 (See Note 5)	2	
29	Screw, hex hd cap, ⅜-16 x 1¾ lg (Note 1)	2	MS35297-65
30	Screw, hex hd cap, ⅜-16 x 1¼ lg	4	MS35297-62
31	Screw, hex hd cap, ¼-20 x 1¼ lg	1	MS35297-10
32	Lockwasher ⅜ iet	4	MS45904-76

Figure 2-2. Combination installation of Radio Sets AN/VRC-46 and AN/VRC-47, with interphone in Carrier, Personnel, Armored M113.